AMENDMENTS TO THE SPECIFICATION

PAGE 9, FIRST PARAGRAPH"

DESCRIPTION OF AN ILLUSTRATIVE EXAMPLE

Turning now to a discussion of the drawings, Fig. 1 shows a mechanical schematic of the invention including a turbine 11 being a rotatably mounted stack of closely spaced disks 10 enclosed in a housing 12. In fig. 1, the housing 12 is partially cutaway to show the disks 10. The droplets of liquid working fluid and ~~Gas~~ gas S (vaporized working fluid) is directed through a nozzle 14 tangentially into the space between the disks 10 thereby turning the disks 10. As the vaporized working medium condenses on the surfaces of the disks, it flows toward the periphery of the disks (by centrifugal force) and is guided by the housing 12 to flow out of exit port 16 as liquid. The liquid W flows through conduit 18 to reservoir 17 where it is reheated and returned to the nozzle 14. A pump 20 is shown connected to the conduit 18 near the entry port and another pump 22 is shown connected to the conduit near the nozzle. Fluid flows into reservoir 17 where is heated by heat source 24. The pumps serve the function of controlling the flow of liquid through the conduit 18 and isolate the conduit 18 from the nozzle 14 and turbine 10 so that required critical pressure is generated in the reservoir 17 by heat while the pressure in the turbine acquires a value corresponing to the liquid at the tempoerature of the surrounding environment. Not shown are ~~is~~ pumps 20, 22 coupled to the turbine shaft. and to one another so that the amount of working fluid forced into the high pressure region by one pump is released from the high pressure region by the other pump.

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Page 10, second complete paragraph---

The liquid at critical pressure that is ~~ejected from the from the~~ nozzle flashes to a mixture of gas (about 5%) and liquid droplets. The more dense liquid W and a major portion of condensed vapor S collecting on the disks flows away from the turbine shaft 26. The vaporized working fluid, that has remained evaporated, is directed toward the turbine shaft 26 where it escapes through openings (not shown) in the shaft out of the end of shaft 26 and through a conduit 28. Conduit 28 is in thermal contact with air-fuel supply conduit 30 thereby warming the air and fuel before the fuel is burned at burners 32 to heat the working fluid in conduit 18. The prewarming of the air and fuel in conduit 18 effects an additional energy serving in terms of increasing the heat of combusition of the fuel and further effects condensation of any remaining vapor .

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Page 11 --- fourth paragraph

The turbine is turned by the jet of the liquid droplets impinging and collecting on the disk

surfaces as discussed above. The effect of slippage that characterizes state of the art vaneless turbines propelled by a gas stream is avoided. The problem imposed by the phenomenon of "critcal pressure" that characterizes impulse and reactive turbines having vanes is avoided.

A3 Figs. 2A-D illustrate the action ~~ation~~ of tworotarty pumps 20. 22 illustrating constant volume of heated working fluid as it is pumped through the reservoir.

Various fluids may be used to drive the turbines. These may include ammonia or freon which would provide the means to operate at a lower temperature.

A particular advantage in improved efficiency is gained by selecting a fluid having a boiling temperature that is a little above room temperature and operating the system between between boiling temperature and the critical temperature. The critical temperature is the temperature at which no energy (heat flow) is required to convert the medium from the liquid state to the gaseous state. Therefore, all of the enrgy of expansion from liquid to gas is

converted to kinetic energy of the remaining liquid phase. The liquid phase will continue to boil off liquid until its temperature drops down to the boiling temperature which will be the temperature of the vanes and housing. But since this lower temperature is close (a little above) to the temperature of the environment, there will be only negligible ~~negigle~~ loss of thermal energy to the enviornment so that the net loss of energy either due to phase change or conduction of heat to the environment is minimized.

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Page 12 ---first paragraph

An alternative approach is to have a closed system (i.e., closed turbine housing) and select a woring liquid whose boiling temperature is below ambient temperature. Under this condition, the lower pressure of the working fluid will depend on the temperature of the environment and there will be no heat flow from the working fluid to the environment. The temperature of the fluid impinging on the disks will depend on the length of the discharge tube direceted at the disks and the rate at which liquid is delivered to the discharge tube.

A4

Page 13, ---- first paragraph

A5 Under ideal conditions of construction and operation of the system, where there is no extraneous heat loss as characterizes state of the art turbines and internal combusition engines, and the only enregy delivered by the system is through the turbine shaft, the present invention ~~ingvention~~ is a very efficient engine.